A Petrographic Analysis of Ceramics from the Prehistoric Maya Site of Hun Tun in Northwestern Belize

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Dedication

For my Mother. Thank you for making sure that I did not eat rocks.

Acknowledgements

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Natalie, this is your shout-out.

Mother, thank you for providing food and shelter.

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by

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The University of Texas at Austin, 2020

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A petrographic analysis was conducted on sherd samples from the small prehistoric Maya site of Hun Tun, located in the hinterlands of the larger elite polity, La Milpa, in Northwestern Belize. Hun Tun contains a *chultun*, an archaeological feature in the ground which was filled with a clay which was lacking in inclusions. Dr. Robyn Dodge, the archaeologist who first investigated Hun Tun, interpreted the *chultun* as being used for ritual storage. Twenty-three sherds, as well as four clay samples were made into thin sections, before being viewed under a Zeiss Axioskop 40 polarizing microscope in the Graduate Microscopy Lab in the Jackson School of Geosciences at the University of Texas at Austin. Quantitative and qualitative analysis has shown two distinct petrofabrics at Hun Tun, which I have called the Sand-Carbonate Fabric, and the Carbonate Fabric. These two distinct groups are both dominated by calcite or dolomite inclusions, with grog (crushed pottery), hematite, and quartz in much lower percentages. Clay samples taken from the *chultun*, as well as sherds from Hun Tun excavations, are compared to show if the clay which was ritually stored at Hun Tun was also used in ceramic production.

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Introduction

Prior investigations into Maya ceramics applying petrographic methods have shown variability in production and trade based on access to production materials (Iceland and Goldberg 1999, Reid 2012). The limestone bedrock in the majority of the Maya lowlands has discouraged the use of petrography in ceramic analysis, as the limestone bedrock presents limited tempering options. Iceland and Goldberg (1999) argue that despite geologic diversity, petrography can detect variability in ceramics, allowing production methods and regional exchange to be studied. Brennan (et al. 2013) argues that the Maya imported higher quality stones to be used for ceremonial purposes, possibly even trading for rocks not local to their sites. The end of the Early Classic, referred to by scholars as the Classic Hiatus, is marked by the retreat of influence from the large center of Tikal in the Petén Department of Guatemala. During this Hiatus, there is a population decline that lasts until the first part of the Late Classic (C.E. 550 - 850) (Scarborough, et al. 2003). Tikal's decline in power allowed a rise in regional independence during the Late Classic. Compared to other regions, the sites in the Programme for Belize Archaeological Project (PfBAP) area (See Figure 1) enjoyed a short "Hiatus", as the civic center of La Milpa rebounded, likely due to "local population growth and immigration" (Scarborough, et al. 2003: 33). The elite of La Milpa exerted their dominance over sites that previously ruled them. Their new superiority was demonstrated with the establishment of smaller satellite communities, forcing local integration into an adaptable and fluid relationship (Scarborough, et al. 2003). The Late Classic saw a rise in locally produced utilitarian wares, which are organized in local contexts, rather than used for regional exchange. Rice (1987) suggests that the production of ceramics was based around village specialization instead of a large marketplace. Ball (1993:245), however, argues that “the mechanisms of circulation that interlinked individual Late Classic Ceramic producer communities with each other, the major centers, and other consumer locales remain far from being satisfactorily understood.” This thesis will argue the significant diversity in the ceramics excavated from Hun Tun, and offer a new perspective into ceramic production in hinterland communities.

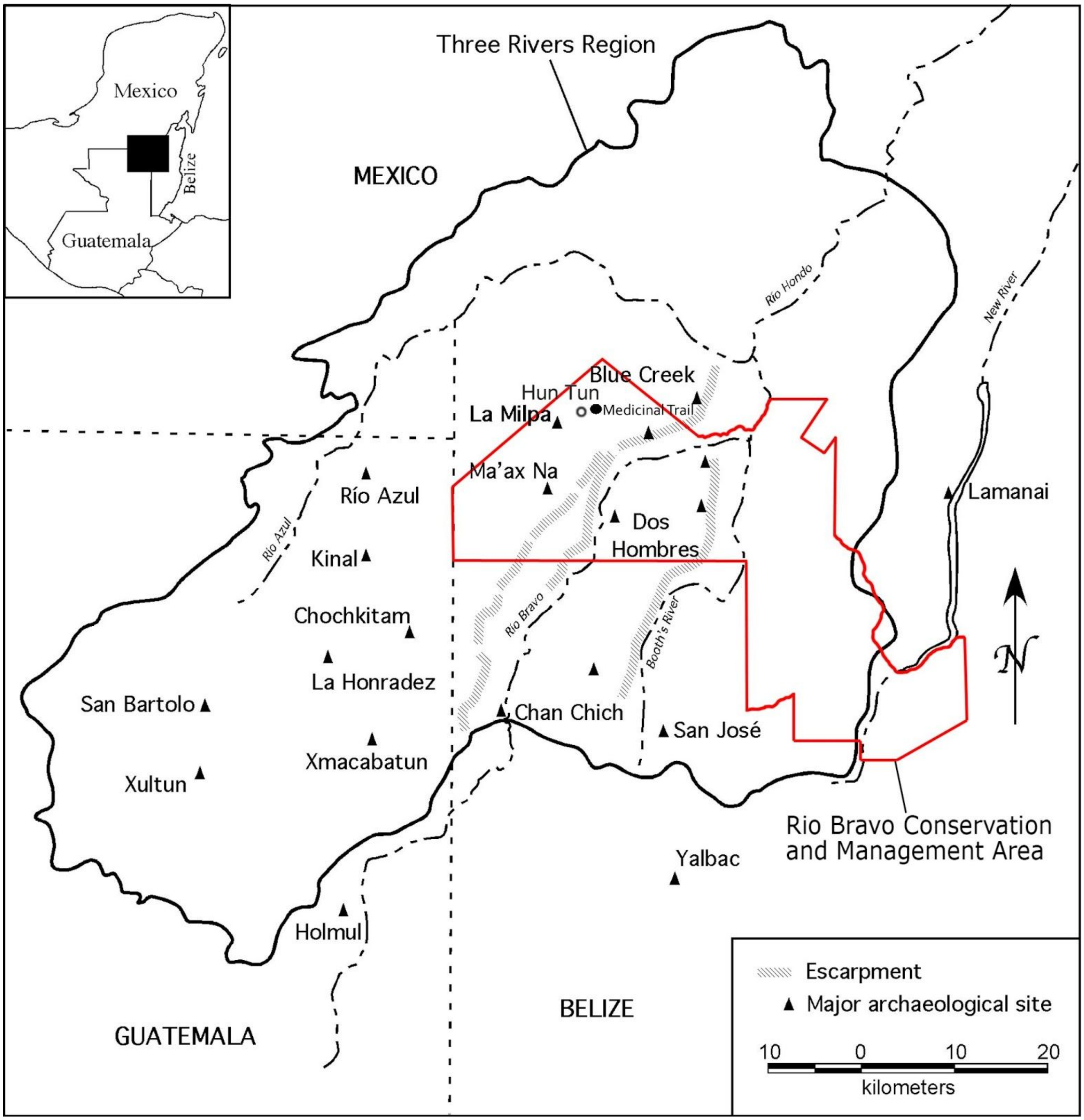
The Programme for Belize Archaeological Project (PfBAP) has dedicated its time and resources to investigating commoner sites, and their interactions with larger sites (Valdez and Cortes-Rincon 2012). One of the research goals of PfBAP is examining smaller hinterland sites in this area (Adams, et al. 2004, Lohse and Valdez 2004). PfBAP is in a geographic area known as the Three Rivers Region (See Figure 1). The Rio Azul/Hondo, the Rio Bravo, and the Booth’s River flank the area giving the region its name (Adams, et al. 2004). Hinterland sites are an integral part of this research, as they are “resource specialized communities” that provide specialized craft production and/or resource procurement (Scarborough, et al. 2003). Archaeological research (Locker 2015) suggests that Hun Tun is a “resource specialized community.”

The PfBAP research area has five known large Maya centers including: La Milpa, Dos Hombres, Ma’ax Na, Grand Cacao, and Great Savanna (Adams, et al. 2004, Dodge 2016). La Milpa is the third largest Maya site in Belize. Ceramics dating to the Middle Preclassic are scarce, as very few Mamom (600 B.C.E - 400 B.C.E.) ceramics have been excavated in context (Kosakowsky and Sagebiel 1999, Sagebiel 2005). The Late Preclassic occupation of La Milpa is well documented, with ceramics from the Chichanel Ceramic Sphere (400 B.C.E. - C.E. 250) appearing in almost every excavation in the central area of the site (Kosakowsky and Sagebiel

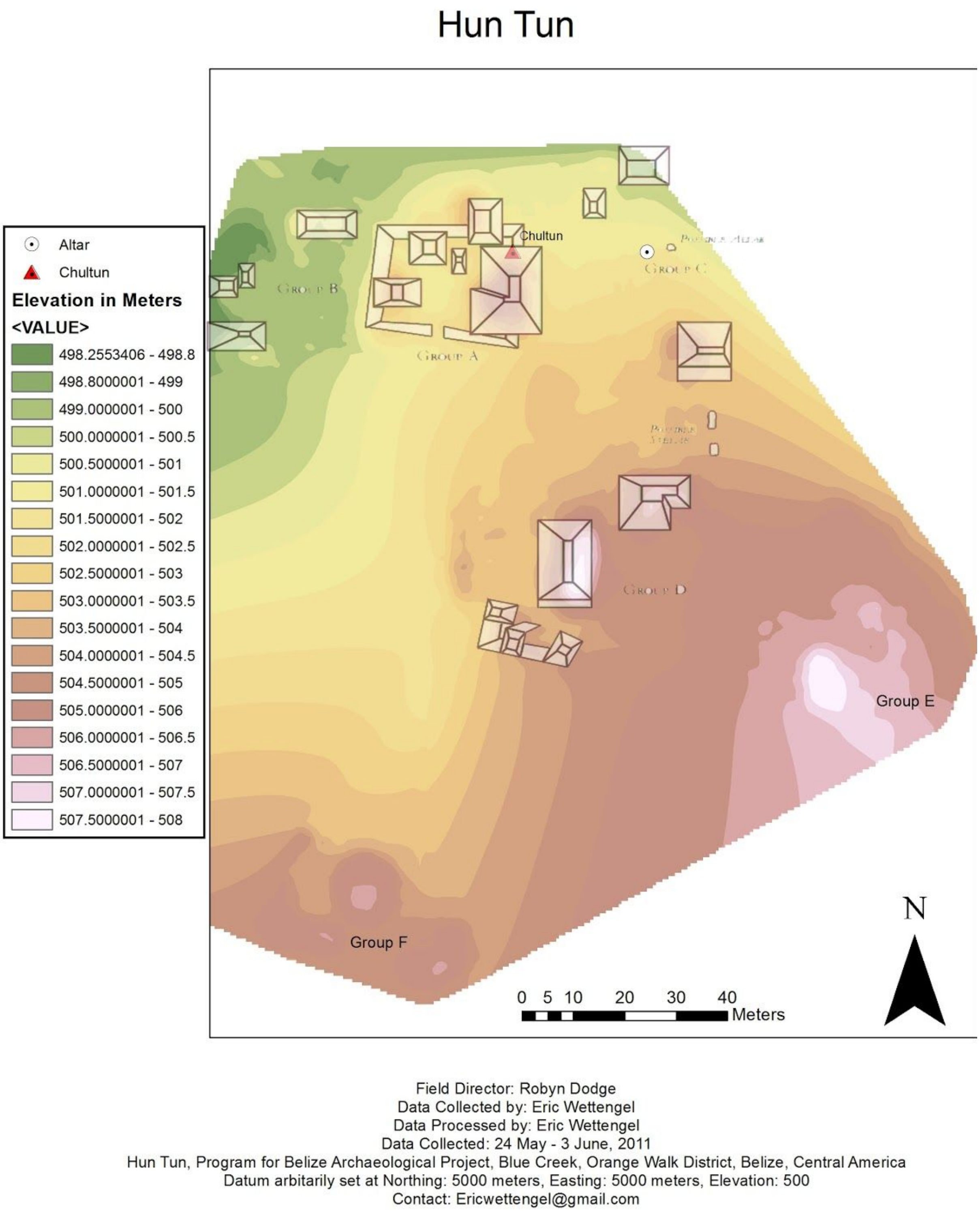
1999). The Early Classic ceramic presence at La Milpa is limited, but remains consistent with the Tzakol Ceramic Sphere (Sagebiel 2005). Over 80% of the ceramics excavated from the Late Classic date to the Tepeu 2-3 Spheres (Sullivan and Valdez 2004). During the Late Classic, La Milpa experienced significant population growth, leading to a great socioeconomic impact on the surrounding area due to their massive building projects that were necessary for the site growth (Hammond and Tourtellot 2004). It is during the Late Classic that an increase in the quality of utilitarian wares increases, likely due to the prosperity of the region (Sullivan and Valdez 2004).

Hun Tun is a Late Classic hinterland site located five kilometers from the larger center of La Milpa (See Figure 1) (Dodge 2016). Hinterland communities are the foundation for Maya civilization, as they provided the necessary infrastructure for success. Hinterland sites, such as Hun Tun, offer a view into the daily lives of Maya commoners. Excavations were based around architectural features at the site, which allowed household activities to be identified in the archaeological record (Dodge 2016) (See Figure 2). Hun Tun is a socially stratified site, as materials and resources are unequally distributed among the household groups (Dodge 2016). Ancient Maya commoners are responsible for the production of food and goods (Lohse and Valdez 2004). They were responsible for procuring sustenance for full-time craft specialists, as well as the elite who ruled them (Lohse and Valdez 2004). Commoners are described as a "broad range of farmers, landless laborers, servants, and crafts people…" (Robin 2003: 318), all of which are seen at Hun Tun (Dodge 2016). Robin (2003) argues that commoner groups did not include members of noble status, despite many nobles being farmers. Through excavations of specific households, commoner sites have shown evidence for items not local to their site, and even contained items of status (Dodge 2016, Robin 2003).

Hun Tun has unique archaeological features for a hinterland site, as it displays limestone megaliths, and a *chultun* (Operation 4, Subop AM) identified in ritual context, which was sealed with a capstone (Dodge 2016) (See Figure 2). *Chultuns* may be described as "the most abundant earth opening in the lowland Maya domestic spaces…"(Brady and Ashmore 1999). Maya commoners also used *chultuns* as dedication and termination caches, similar to nobility (Dodge 2016). Angelina (Sweeney) Locker (2015) performed laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) on clay samples from the *chultun*, then compared them to Lemonal Cream ceramics from four sites in the PfBAP region. LA-ICP-MS is a chemical analysis method which ionizes elements in a sample, then runs them through a mass spectrometer. LA-ICP-MS is able to target certain areas of a sample, allowing just the slip of a ceramic to be analyzed (Johnson 2016). Her results suggest that Hun Tun may have specialized in ceramic production. During her work, Locker discovered two distinct clay signatures used in ceramic production (Locker 2020, Personal Communication). Locker's research into ceramics, as well as that of the *chultun*, detail the possibility of ceramic production at Hun Tun. Dodge's interpretation of the *chultun* at Hun Tun being used for ritualized storage of clay is the basis for this paper examining sherds and clay samples from Hun Tun.



(Figure 1. Map of Northern Belize, the Three Rivers Region, large sites in PfBAP, and Hun Tun, courtesy of PfBAP)



(Figure 2. Relief map of Hun Tun. Map by Robyn Dodge)

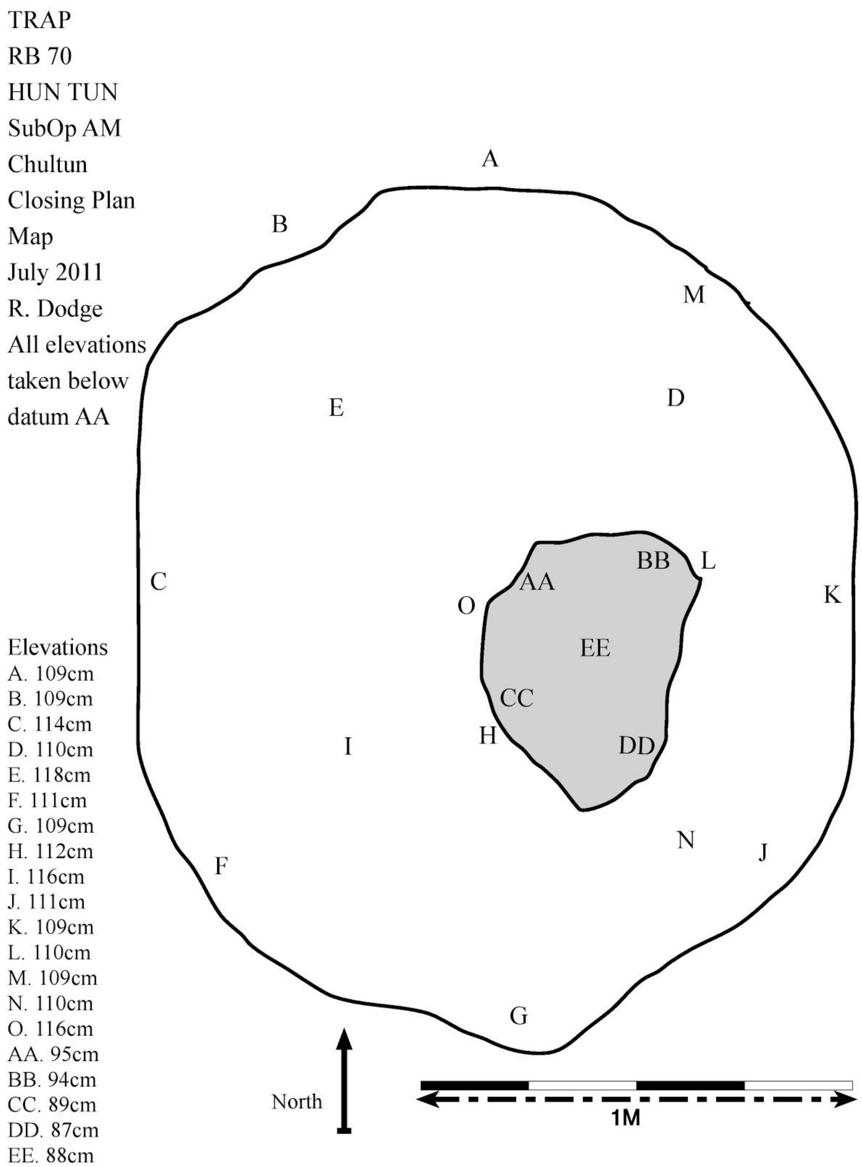
Methodology

Petrographic methods were first applied to Mesoamerican ceramics by Anna Shepard (1948, 1958, and 1967). Shepard's research (1942) found volcanic ash in the ceramics excavated at Maya lowland sites, which offered a new interpretation for long distance trade. As Reid (2012) discusses, petrography allows for "raw material variability and production techniques" to be examined, showing inclusion patterns and possible recipes for ceramics. Chemical analysis, such as Neutron Activation Analysis (NAA), can show the different resources that ceramics were produced from. Twenty-four of the 27 thin sections used in this study were sent to, and prepared by National Petrographic Service, in Rosenberg, Texas. The remainder were prepared by the University of Texas Jackson School of Geosciences Thin Section Lab. Borrowing from the geological sciences, identifying inclusions in ceramics through mineralogy can distinguish minerals from one another through optical properties, such as the color of the mineral, cleavage, and grain shape. The firing of a vessel forces the minerals to undergo thermal changes, which can be used to determine the temperature at which it was fired (Rice 1987).

The focus of sherd and clay sampling is from Group C, in Structure C-4 (See Figure 2). This area was chosen due to the open nature of the site, and its proximity to the limestone megaliths. Due to funding and time restrictions, 23 sherds from various provenances were selected at random for thin sectioning. Because of the destructive nature of petrographic analysis, the sample set consists of only body sherds. Three sherds from all but one of the provenances were selected.

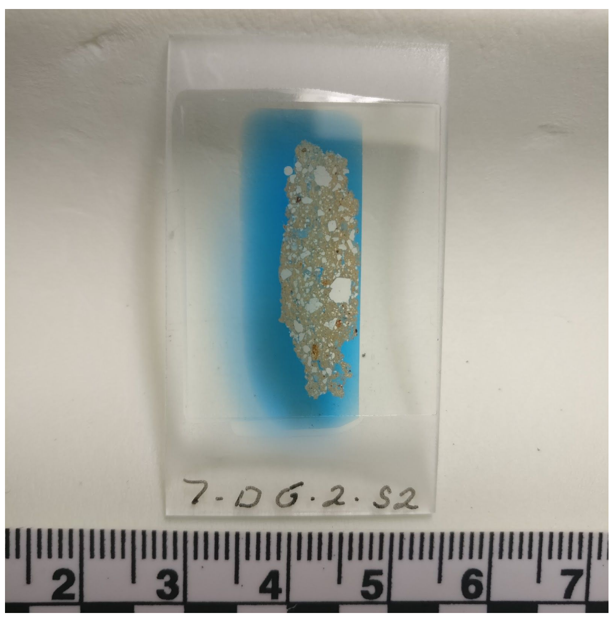
Excavations by Dodge (2016) uncovered a chultun at Structure A-1 at Hun Tun. The entirety of the *chultun* was excavated in a total of 20 lots. The matrix of the *chultun* was a solid, almost entirely pure clay deposit, with few inclusions, and iron nodules that leached into the matrix (See figures 05 and 14). Samples were taken and worked into vessels and fired by PfBAP's Lab Director and experimental ceramicist (Hankins 2014). Dodge (2016) interprets the *chultun* as an "intentional ritual deposit" due to it being sealed with a capstone, then being sealed with plaster before a cache was placed above. Despite a plaster layer sealing the *chultun*, it is possible that the clay was stored for safekeeping. Hun Tun may have been an "intermediary site in ceramic processing and or distribution," with the clay being a "commodity resource stored in the elite context of Structure A-1" (Dodge 2016). The usage of thin sections will allow the clay from the *chultun* to be compared with sherd samples, showing if there is a possibility the same clay that was stored ritually was also used for ceramic production.

(Figure 3. Opening to the *chultun*, Photo by Norma Garcia, courtesy of PfBAP)



(Figure 4. Closing elevations and plan map for the *chultun*. Map by Robyn Dodge)

(Figure 5. Clay from *chultun*. Photo courtesy of Robyn Dodge)



(Figure 6. Thin section produced by National Petrographic Service, Inc.)

Lot Descriptions

Operation 7, Suboperation CX, Lot 3 (7-CX-3) is a 2 x 3meter unit in the northwest corner of structure C-4. The lot revealed a corner of the structure wall. The western edge of the lot has a cut stone alignment, possibly from the structure. Artifacts collected from the lot include ceramics, lithics, obsidian, and groundstone.

7-CY-3 is a 2 x 3 meter unit that lies to the north of 7-CX-3. The lot contained unaligned stones on the eastern edge. Artifacts collected from the lot include ceramics and lithics.

7-DA-6 is a 2 x 3meter unit established to identify other architecture and a low lying platform around structure C-4. It showed a well cut stone, and possible alignment oriented East-West.

7-DA-9 is a continuation of 7-DA-6. The excavation went down to the platform, and showed loose cobble below a plaster floor. Ceramics, lithics, and a mano were excavated.

7-DB-2 is a 2 x 3 meter unit following a wall oriented North-South. The Southwest corner of the unit was extremely muddy, and produced most of the lithics excavated. Burnt ceramics were found in the wall. Ceramics, lithics, lithic cores, and obsidian were recovered.

7-DB-3 continues 7-DB-2. The excavation uncovered the corner of the wall. There was a foot from a ceramic vessel excavated on the border with 7-CX-3. Obsidian was uncovered in the western half of the unit.

7-DD-2 is a unit associated with the wall found in 7-DB-2 and 7-DB-3. The southeast of the lot shows burnt limestone. Ceramics excavated were mainly from the southwest corner.

7-DG-2 is a 2 x 2 meter unit of limestone cut rocks from a collapsed building. The lot contains a large amount of roots. Ceramics, lithics, and obsidian were recovered.

Sherd Descriptions

Each sherd is labeled with the subop, and a unique number. In total, there are 23 sherds that have been sectioned. Before being exported, they were photographed by PfBAP's official photographer Bruce Templeton (See figures 15-28). Upon receiving the sherds in the United States, I sketched outlines and side profiles of each individual sherd as I assigned them unique identifiers (See figures 30-27). PfBAP's ceramicist, Lauren Sullivan analyzed each ceramic using Type: Variety-mode. All ceramics excavated date to Tepeu 2-3, placing the site in the Late Classic. The following ceramic types were excavated in the chosen lots: Tinaja Red, Achote Black, Cayo Unslipped, Daylight Orange, Red Slipped, Striated, Tres Mujeres Mottled, Rubber Camp Brown, Subin Red, and a handful that were unidentified (Dodge 2016, and 2019, personal communication).

Thin Section Analysis

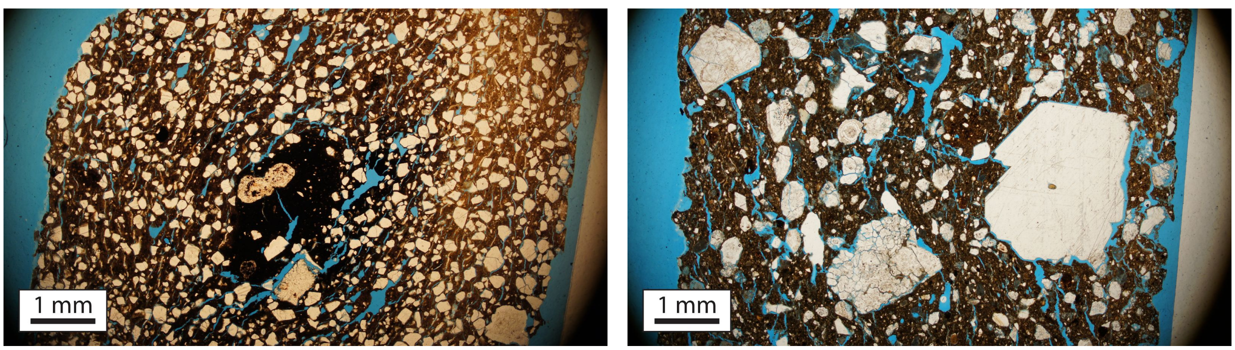
By using quantitative and qualitative analysis, I have discovered that the sherds sectioned use various production methods and tempers. The most abundant inclusion is calcite, appearing in dramatic size variations from silt to coarse sand. Calcite is present in every sample from Hun Tun (n=23). A great majority of the samples contain a large amount of voids, and the clay is poorly or moderately sorted. There are trace amounts of other inclusions, such as quartz, muscovite mica, hematite, and grog. Determining whether or not inclusions were intentionally ground for the production of ceramics is indicative of their angularity. Well-rounded grains are commonly natural inclusions, whereas angular or subangular inclusions show deliberate inclusions (Rice 1987, 85-86). Of the ceramics, there are two main types of temper groups, those primarily consisting of calcite (n=17), and those being dominated by dolomite (n=6). For the samples dominated by calcite, there is also dolomite present in four sherds, which indicates their firing temperature (Trindade et al. 2009:349). Hematite is present in every sample from Hun Tun, but in small trace amounts that are well rounded, indicating that they were naturally found in the clays. Quartz is also found in trace amounts in sherds (n=12), and is always well rounded. The voids present in the sherds are likely created by organic materials burning out during the firing process (Rice 1987). Three of the samples contain anisotropic clay (See Figure 10). In ceramics, anisotropic clay occurs when grains are aligned along crystallographic directions when exposed to external physical field environments, such as “stress fields, electromagnetic fields, and temperatures, forming texture microstructures” (Zhang et al., 2019). A minimum of 300 points are counted in all but one (7-DA-6-S2) of the sherds.

Previous work (Johnson 2016, Reid 2012) has discussed different petrofabrics and groups in their ceramics. There are two distinct groups in the Hun Tun ceramics: the Carbonate Fabric, and the Sand-Carbonate Fabric. There are two exceptions to this, as one sherd contains very low percentages of inclusions, and is composed almost entirely of the clay matrix, while another contains little calcite, and a significant percentage of high-fired grog.. The Sand Fabric shows evidence of both rounded and angular calcite grains, indicating naturally occuring, and deliberately ground calcite inclusions. The Carbonate Fabric shows some sand sized grains, but at lower amounts. There are two outlier sherds in this sample, which are: 7-CX-3-S1, and 7-CY-3-S1. Carbonate Fabrics are much more poorly sorted than those with Sand Fabrics, as the Carbonate Fabrics contain some grains measuring over 2mm in length, and much higher percentages of dolomite.

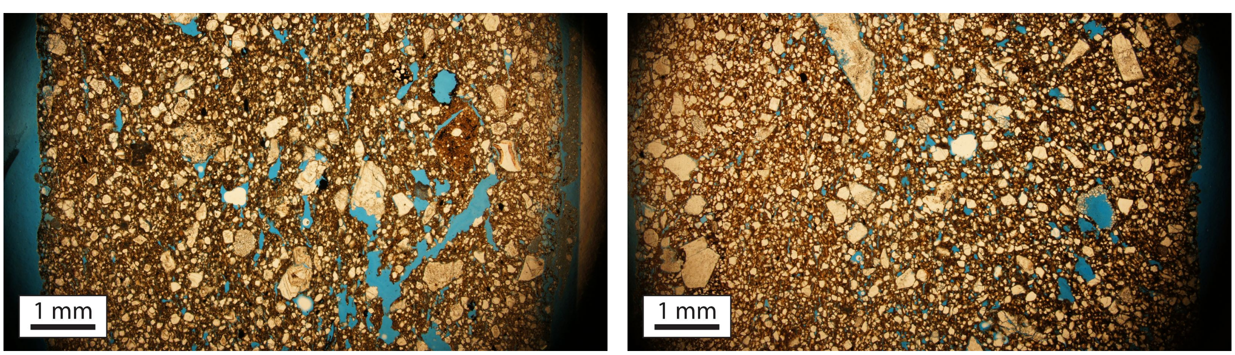
The Carbonate Fabric and Sand-Carbonate Fabrics have two dominant inclusions: calcite, and dolomite. As a vessel is fired at temperatures exceeding 700℃, dolomite begins to deteriorate into calcite or periclase, or decomposes (Trindade et al. 2009:349). This is shown by the following equation (Trindade et al. 2009:349).

$$CaMg(CO_3)_2 \text{ (dolomite)} \rightarrow CaCo_3 \text{ (calcite)} + MgO \text{ (periclase)} + CO_2$$

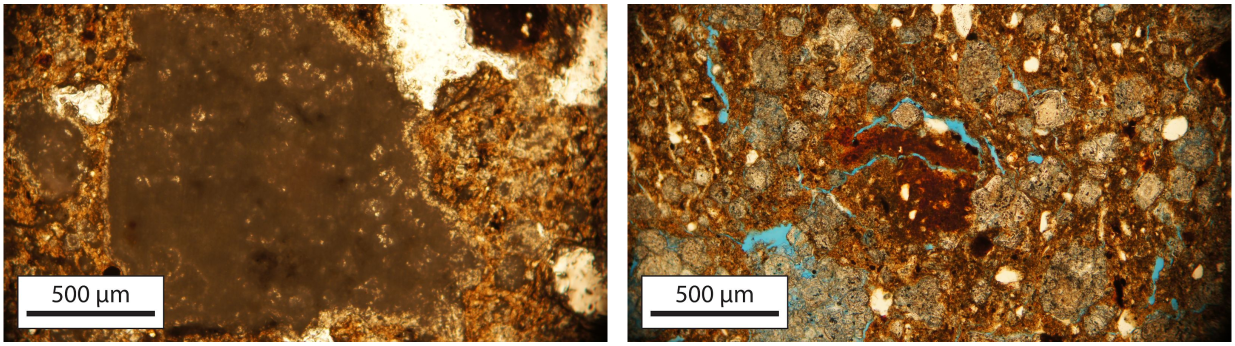
At temperatures above 800℃, dolomite begins to disintegrate, whereas calcite remains until 900℃ (Trindade et al. 2009:349). Because of the prevalence of calcite and dolomite, determining firing temperature is straightforward. Dolomite is present in eight of the 23 sherds, indicating that they were fired at temperatures between 800℃ and 900℃.



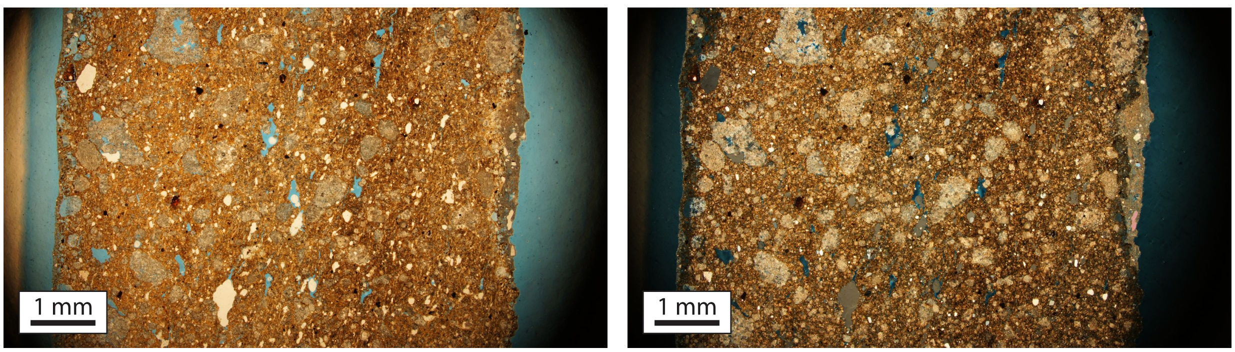
(Figure 7. Examples of Carbonate Fabric. Left: 7-DB-3-S2. Right: 7-DG-2-S2)



(Figure 8. Examples of Sand-Carbonate Fabric. Left: 7-DA-9-S1. Right: 7-DA-9-S2)



(Figure 9. Examples of inclusions. Left: High-fired grog from 7-CY-3-S1. Right: Grog and dolomite, sample 7-CY-3-S3.)



(Figure 10. Example of anisotropic clay matrix. Sample 7-DB-3-S1. Left: Plane-polarized light.

Right: Cross-polarized light.)

(Figure 11. Sherds from Hun Tun. Right: Sample 7-DB-3-S2, Sand-Carbonate Fabric.

Left:7-DG-2-S2, Carbonate Fabric.)

Prov.	Sherd	Calcite	Dolomite	Quartz	Mica (Muscovite)	Hematite	Grog	Void	Matrix
7-CX-3	S1	49.50%	0.00%	0.00%	0.00%	21.80%	0.00%	28.70%	Ungrouped
7-CX-3	S2	29.24%	43.19%	0.16%	0.24%	2.01%	0.00%	25.16%	Sand-Carbonate
7-CX-3	S3	23.88%	40.43%	0.00%	0.14%	7.62%	0.00%	27.93%	Sand-Carbonate
7-CY-3	S1	10.54%	0.00%	1.42%	0.00%	3.92%	39.31%	47.21%	Ungrouped
7-CY-3	S2	51.58%	0.00%	0.00%	0.00%	1.59%	0.00%	46.83%	Carbonate
7-CY-3	S3	16.57%	47.82%	0.00%	0.22%	0.14%	0.86%	34.39%	Sand-Carbonate
7-DA-6	S1	50.03%	0.00%	0.76%	0.00%	2.29%	0.00%	46.92%	Carbonate
7-DA-6	S2	50.19%	0.00%	2.72%	0.00%	11.28%	3.11%	32.70%	Carbonate
7-DA-9	S1	92.59%	1.24%	0.00%	0.00%	0.99%	0.02%	5.16%	Sand-Carbonate
7-DA-9	S2	91.38%	0.21%	0.00%	0.00%	0.77%	0.00%	7.64%	Sand-Carbonate
7-DA-9	S3	59.60%	0.00%	0.00%	0.00%	0.84%	0.00%	39.56%	Sand-Carbonate
7-DB-2	S1	9.67%	56.29%	0.11%	0.00%	0.19%	0.00%	42.51%	Sand-Carbonate
7-DB-2	S2	64.65%	0.00%	0.00%	0.00%	2.09%	0.05%	33.21%	Sand-Carbonate
7-DB-2	S3	51.17%	0.00%	0.00%	0.00%	4.51%	0.00%	44.32%	Sand-Carbonate
7-DB-3	S1	6.91%	56.50%	3.04%	0.00%	6.30%	0.00%	27.25%	Carbonate
7-DB-3	S2	64.09%	0.00%	0.20%	0.00%	0.80%	0.00%	34.91%	Carbonate
7-DB-3	S3	73.75%	0.00%	0.21%	0.05%	0.47%	0.00%	25.52%	Sand-Carbonate
7-DD-2	S1	59.21%	0.00%	1.46%	0.00%	0.49%	0.00%	38.84%	Sand-Carbonate
7-DD-2	S2	50.05%	0.00%	1.85%	0.00%	10.08%	0.00%	38.02%	Carbonate
7-DD-2	S3	8.57%	58.21%	0.04%	0.58%	0.73%	0.00%	31.87%	Carbonate
7-DG-2	S1	59.66%	0.00%	0.16%	0.00%	0.08%	0.00%	49.10%	Sand-Carbonate
7-DG-2	S2	31.25%	0.00%	7.57%	0.00%	1.62%	0.41%	59.15%	Carbonate
7-DG-2	S3	32.56%	1.28%	1.03%	0.00%	1.71%	0.00%	63.42%	Carbonate

(Figure 12. Inclusion Percentage Counts)

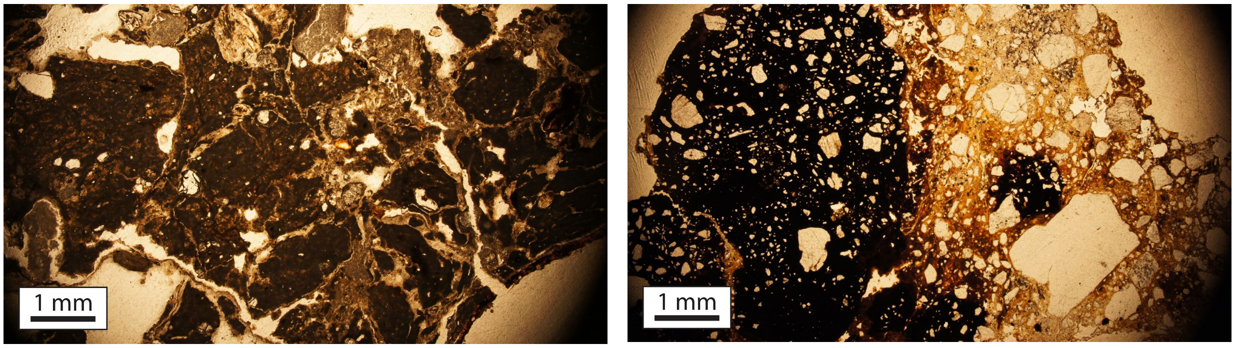
Clay Analysis

Four thin sections were also made of raw clay samples, two of which are taken from the *chultun*. One of the *chultun* samples was stained with Alizarin Red and Potassium Ferricyanide, which allows calcite to be distinguished from dolomite, as well as make carbonates more visible. Two other clay samples were taken from the matrixes of 7-CW-2, and 7-CY-3, then mounted with a clear epoxy.

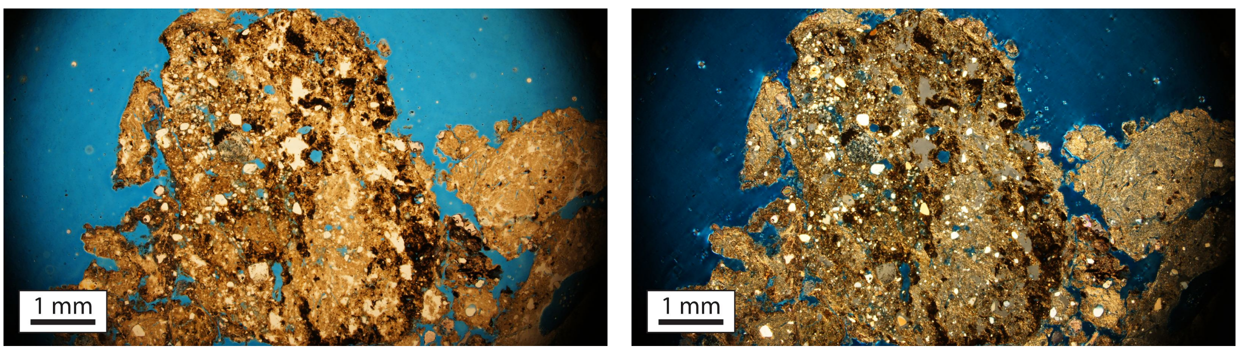
7-CW-2 is lacking in inclusions, containing very few calcite grains, with trace hematite. The thin section has one hematite grain that measures 3.6mm in length (See Figure 13).

7-CY-3 has two clay matrices mixed together. One is dark brown mixed with a rust color, and the other is a cream color. The sample has a visual estimate of 25% silt, which is entirely calcite. Hematite is incredibly common, and makes up a majority of the sample (See Figure 13).

There are two samples taken from 4-AM-19, which is the *chultun* clay. One is stained with Alizarin Red and Potassium Ferricyanide by National Petrographic, Inc., and allows carbonates such as calcite and dolomite to be distinguished. The clay from the *chultun* is anisotropic, meaning that it has different visual properties when viewed from different angles while being viewed with Cross-Polarized light. The thin sections from the *chultun* contain calcite, hematite, and some trace amounts of quartz, with all grains being moderately to well-rounded. Most grains are the size of coarse sand, with the exception being some pieces of hematite measuring over 2mm in length. The *chultun* clay does appear to have been stained by an iron deposit, as there are dark red-brown areas which show no iron inclusions (See Figure 14)



(Figure 13. Clay samples mounted with clear epoxy. Left: 7-CW-2. Right: 7-CY-3)



(Figure 14. Samples from 4-AM-19, showing anisotropy. Left: Plane-Polarized light. Right: Cross-polarized light)

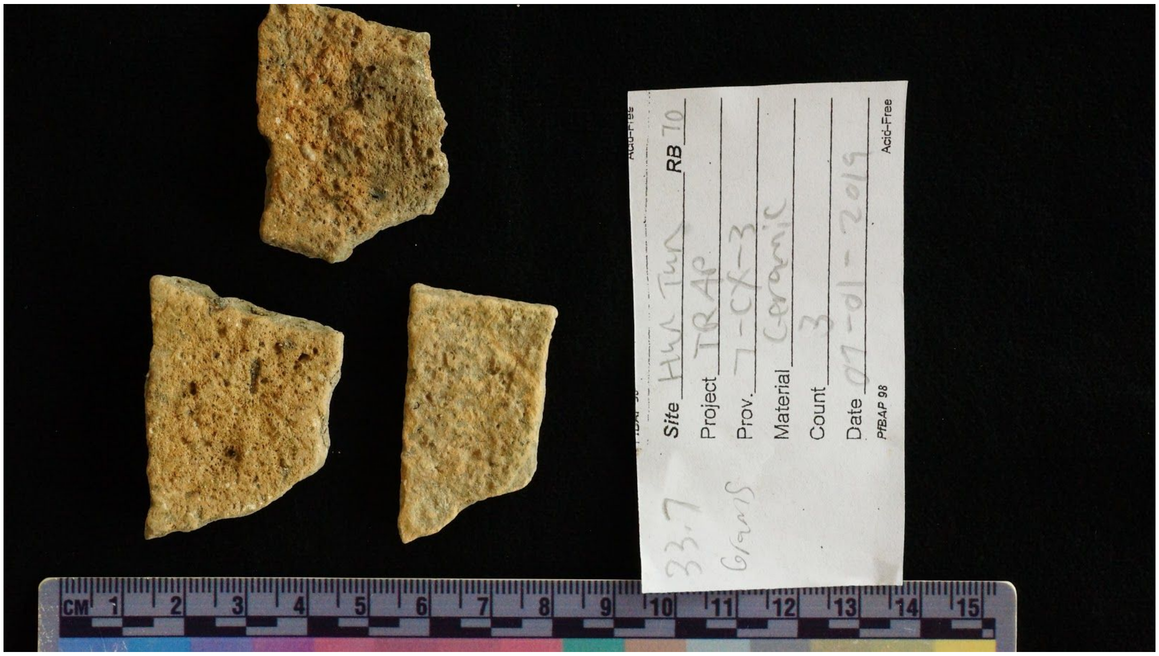
Conclusion

The results of this study have shown a commonality in the temper groups for Hun Tun, and possibly the extended La Milpa area. The high amount (n=18) of sherds containing a percentage of calcite inclusions above 25% is enough to conclude that there was some production specialization at Hun Tun. The Sand-Carbonate Fabrics and Carbonate Fabrics present at the site, as well as Locker's research (2015) showing two clay signatures at the site, suggest Hun Tun was a resource specialized community, or a trade intermediary. A likelihood exists that the quartz found in the ceramics eroded from a parent rock not local to Hun Tun, and was brought in through rivers, then added to the vessel during processing. Because the *chultun* contains anisotropic clay, and all but three sherds contain isotropic clay, it is highly unlikely that the *chultun* clay was used in ceramic production. Anisotropic clay presents optical variations when viewed under cross-polarized light (XPL), whereas isotropic clays do not exhibit such variations. To draw further conclusions about Hun Tun's role in the trade hierarchy of the La Milpa hinterlands, further analysis of other surrounding sites will need to be conducted.

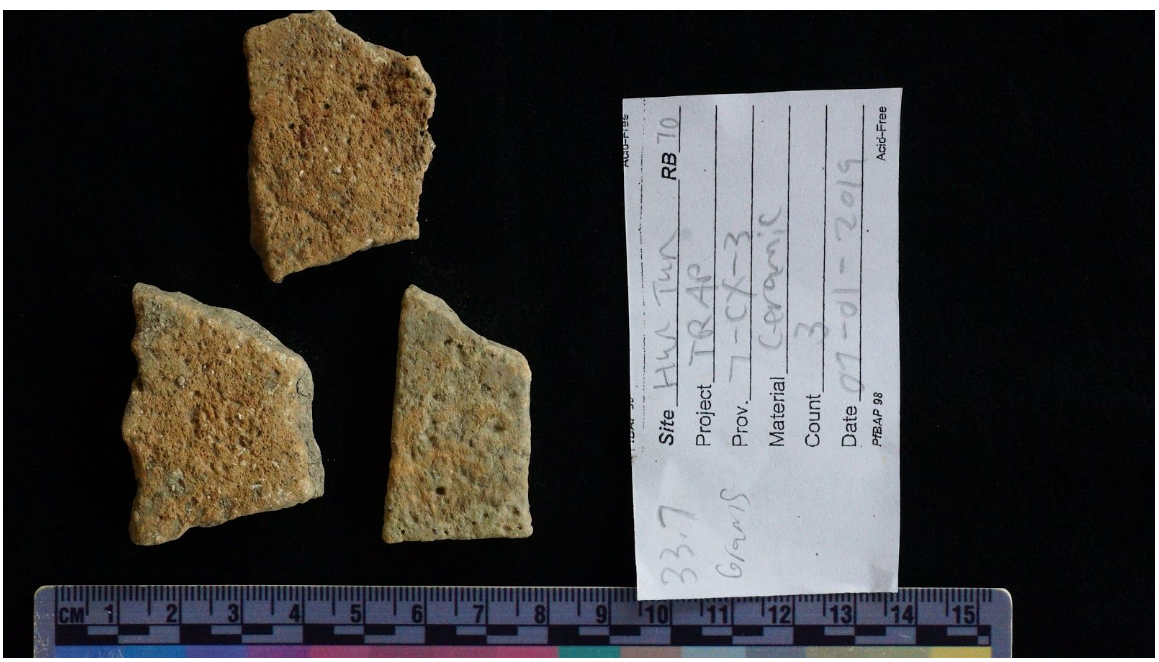
Future Research

Neutron Activation Analysis (NAA) has been conducted in numerous studies analyzing clay signatures to show how ceramics can be grouped through the elements of the clay they were produced from (Callaghan 2018; Johnson 2016). Databases used by the labs conducting the analysis can show the origin of the clay, narrowing it to possible areas where ceramics were produced. However, the sample size for this thesis is too small to produce any significant findings with NAA. As previously discussed, the Maya lowlands are considered a land that is not geologically diverse. Research, however, has shown that this region does in fact have distinct chemical signatures (Bishop et al. 1985:160-161; Kosakowsky et al. 2013:239). One of the benefits to conducting petrographic analysis is the ability to distinguish clay and temper. NAA only reveals the chemical composition of a sample. In an area like the PfBAP region, where there is not a great variety of bedrock, small variations in chemical signatures can be distinguished. Stoltman (2002: 298) argues that petrography and a chemical analysis, such as NAA should go hand-in-hand. Future research at Hun Tun and PfBAP could benefit from using NAA, as it will allow sourcing of ceramics to be better understood.

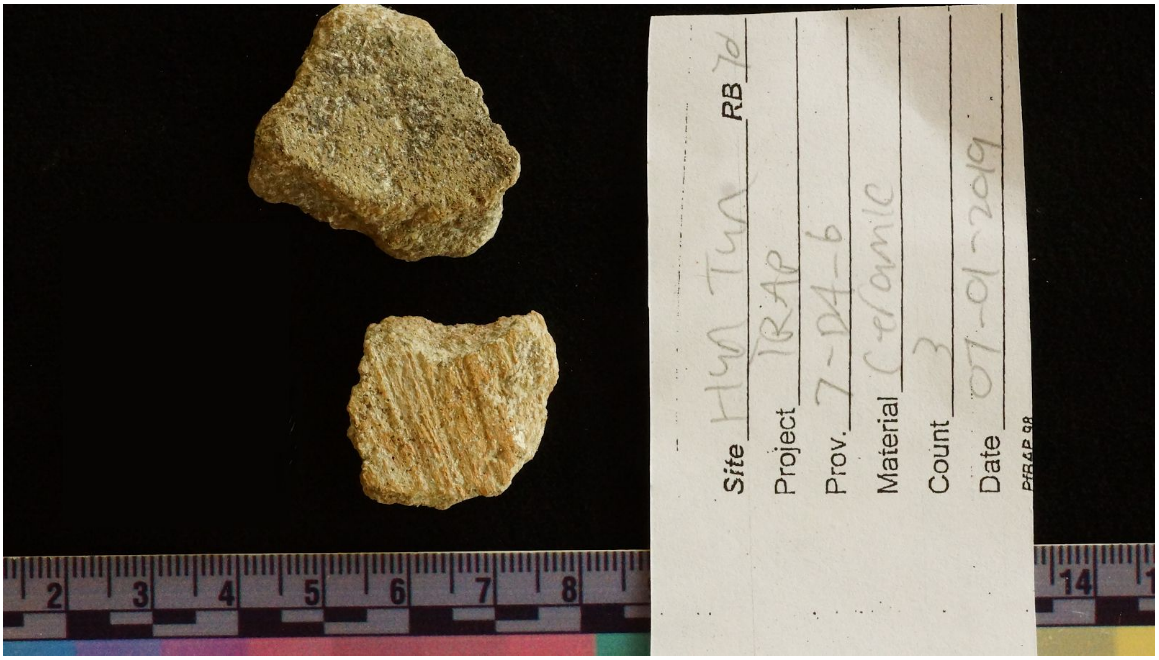
Appendix



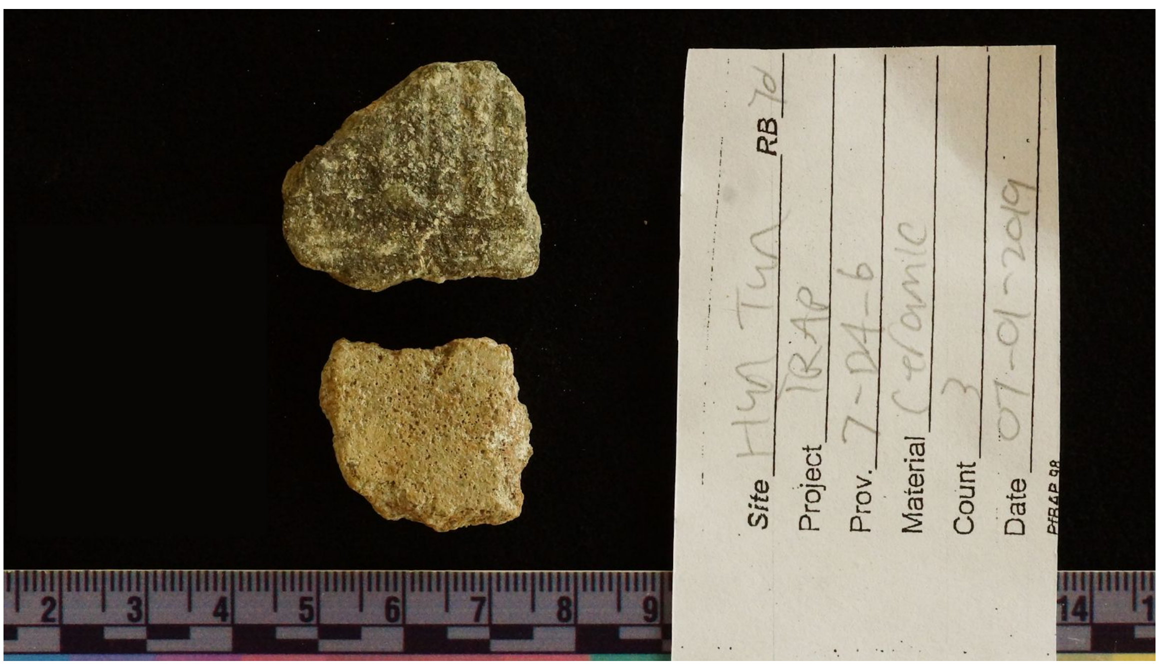
(Figure 15. Sherds from 7-CX-3, Photo by Bruce Templeton, courtesy of PfBAP)



(Figure 16. Reverse side of sherds from 7-CX-3, Photo by Bruce Templeton, courtesy of PfBAP)



(Figure 17. Sherds from 7-DA-6, Photo by Bruce Templeton, courtesy of PfBAP)

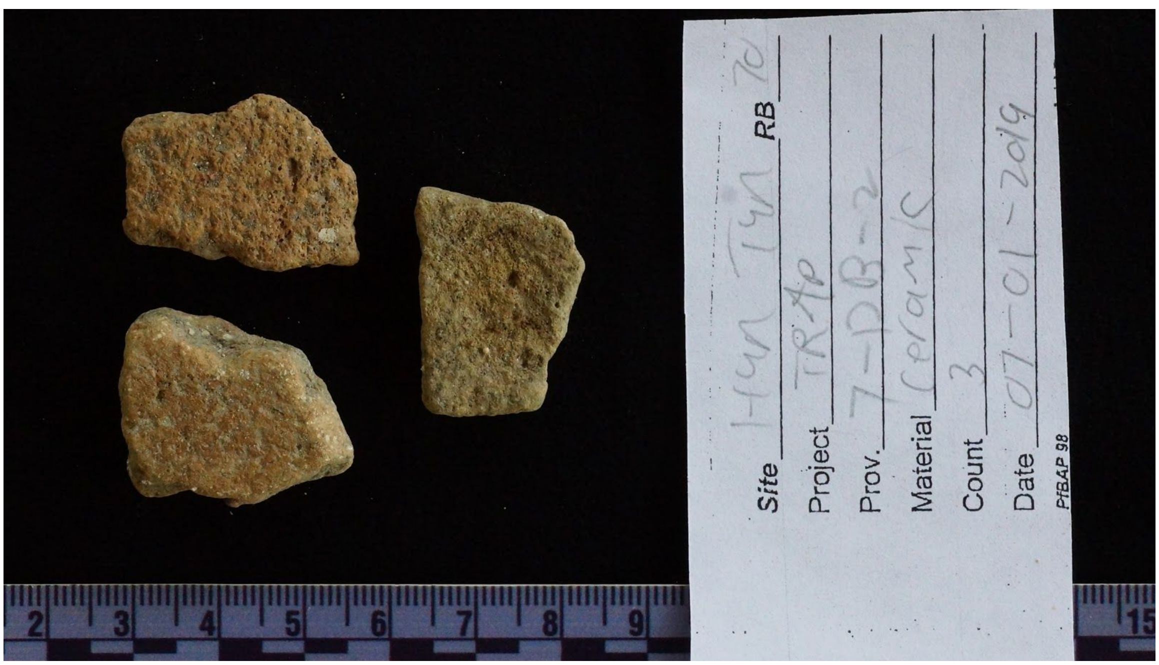


(Figure 18. Reverse side of sherds from 7-DA-6, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 19. Sherds from 7-DA-9, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 20. Reverse side of sherds from 7-DA-9, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 21. Sherds from 7-DB-2, Photo by Bruce Templeton, courtesy of PfBAP)



(Figure 22. Reverse side of sherds from 7-DB-2, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 23. Sherds from 7-DB-3, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 24. Reverse side of sherds from 7-DB-3, Photo by Bruce Templeton, courtesy of PfBAP)

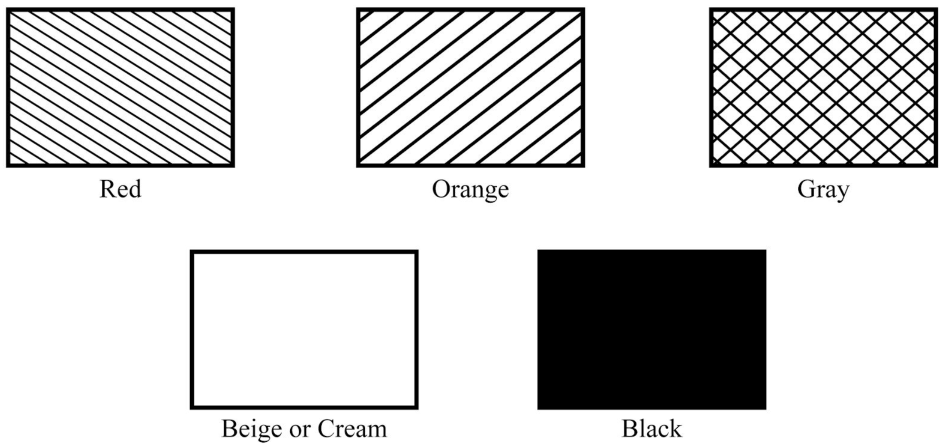
(Figure 25. Sherds from 7-DD-2, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 26. Reverse side of sherds from 7-DD-2, Photo by Bruce Templeton, courtesy of PfBAP)

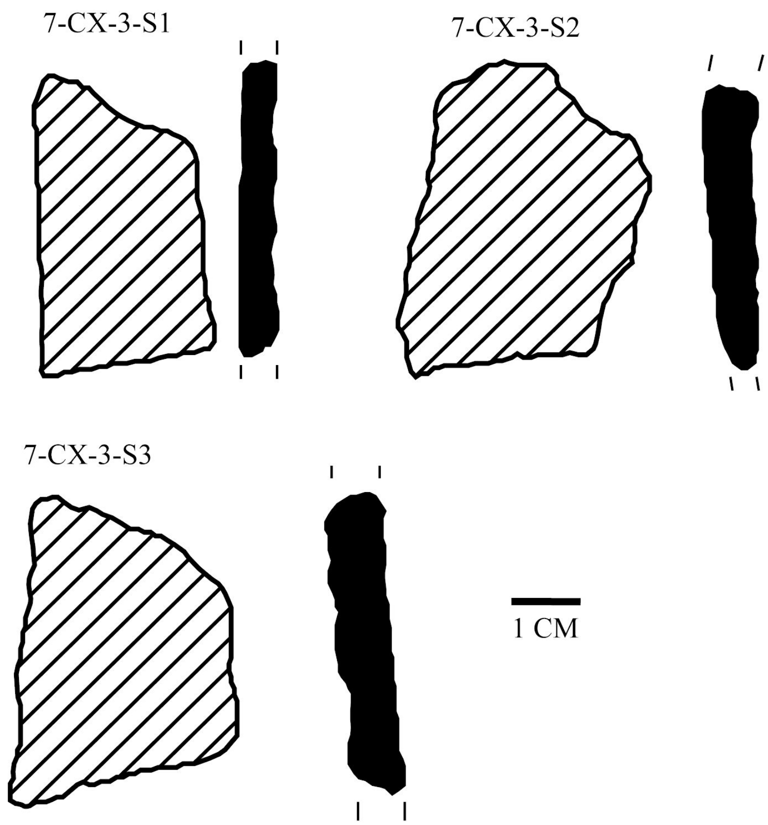
(Figure 27. Sherds from 7-DG-2, Photo by Bruce Templeton, courtesy of PfBAP)

(Figure 28. Reverse side of sherds from 7-DG-2, Photo by Bruce Templeton, courtesy of PfBAP)

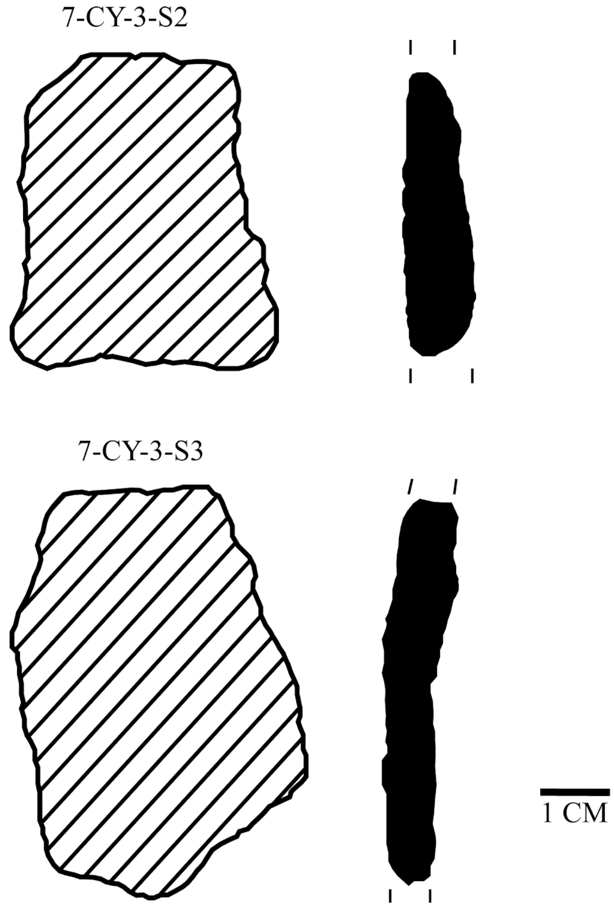
Legend



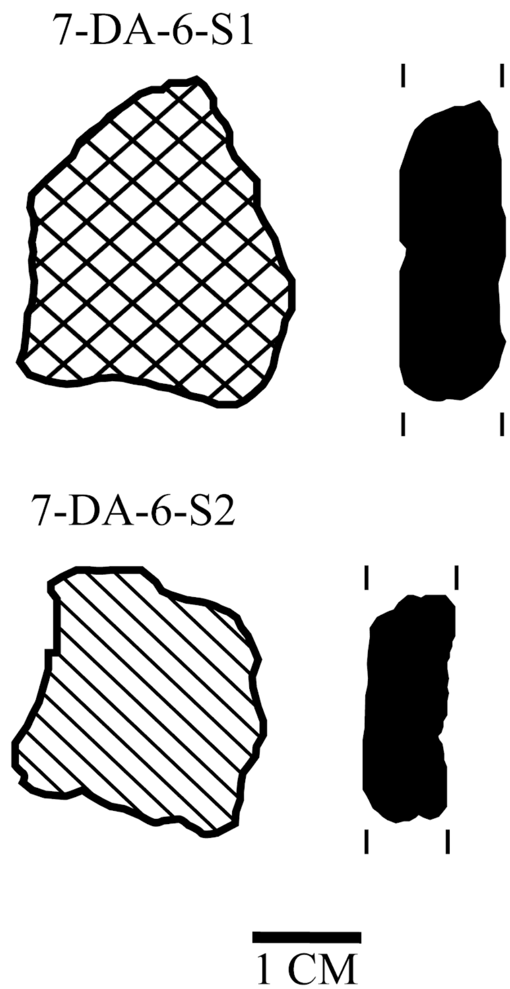
(Figure 29. Legend for sherd outline colors)



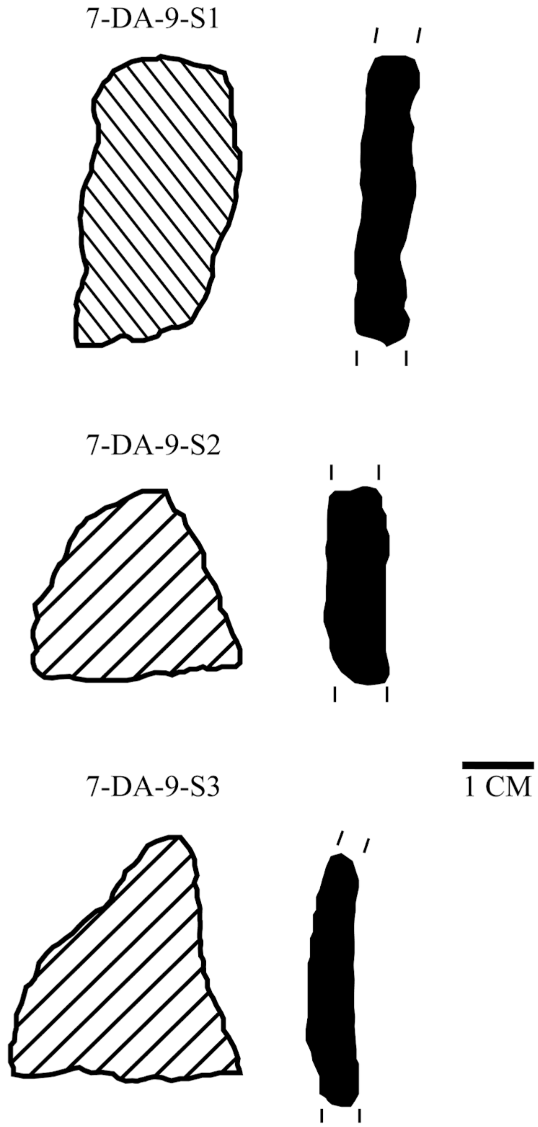
(Figure 30. Sherd outlines from 7-CX-3)



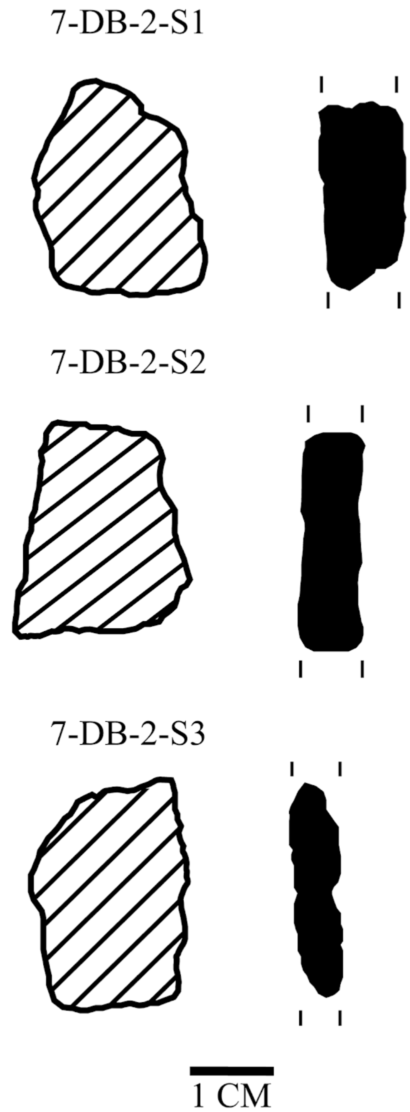
(Figure 31. Sherd outlines from 7-CY-3)



(Figure 32. Sherd outlines from 7-DA-6)

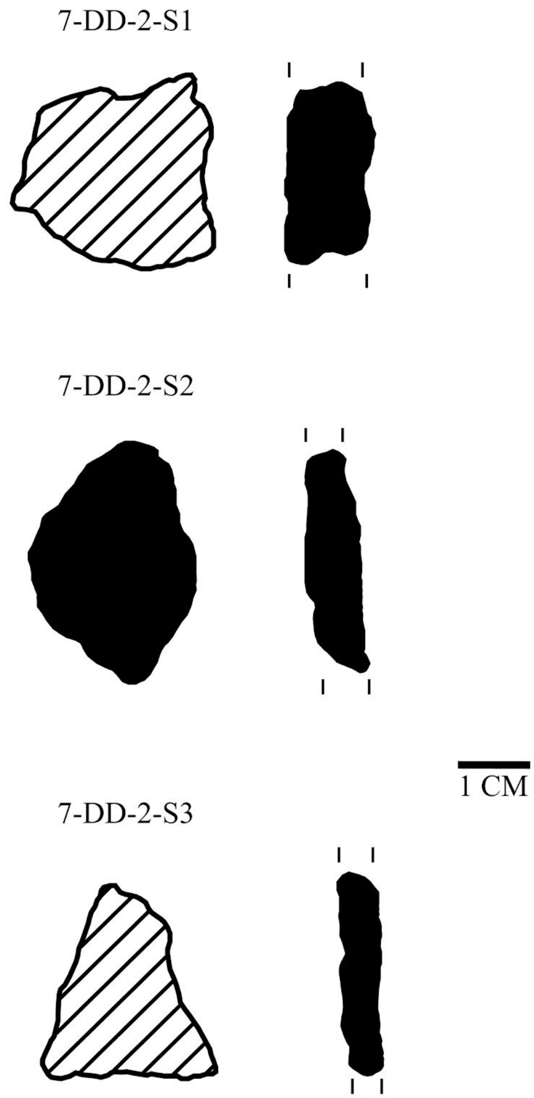


(Figure 33. Sherd outlines from 7-DA-9)

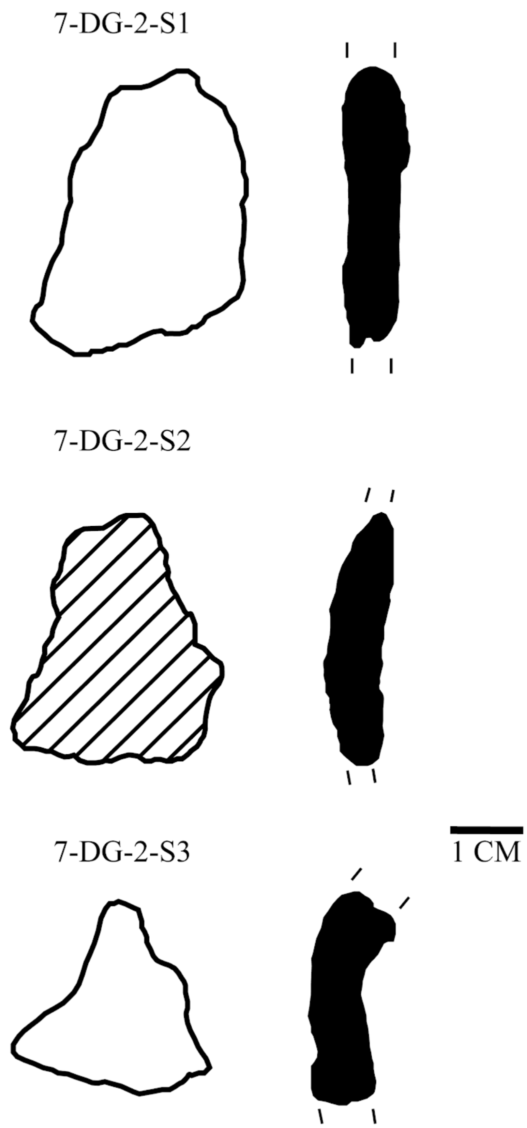


(Figure 34. Sherd outlines from 7-DB-2)

(Figure 35. Sherd outlines from 7-DB-3)



(Figure 36. Sherd outlines from 7-DD-2)



(Figure 37. Sherd outlines from 7-DG-2)

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